WHAT IS CLAIMED IS:

1. (Withdrawn) A rotary actuator comprising:

an actuator shell;

a planetary cage, disposed within the actuator shell;

a prime mover having a first prime mover portion rigidly fixed to the actuator shell and a second prime mover portion, adjacent to, and movable with respect to, the first prime mover portion, rigidly fixed to the planetary gear cage, and capable of exerting a torque on the first prime mover portion;

a cross-roller bearing having a first bearing portion rigidly fixed to the actuator shell .and a second bearing portion, movable with respect to the first bearing portion;

an output attachment plate rigidly fixed to the second bearing portion;

a shell gear rigidly fixed to the actuator shell;

an output gear rigidly fixed to the output attachment plate; and

one or more planetary gears, disposed in the planetary cage, each having a first gear portion meshed to the shell gear and a second gear portion, adjacent to the first gear portion, meshed to the output gear.

2. (Withdrawn) The rotary actuator of claim 1 further comprising a first structural link rigidly connected to the actuator shell and a second structural link rigidly connected to the output attachment plate.

3. (Withdrawn) The rotary actuator of claim 2 wherein the first link and second links are attached to the actuator shell and output attachment plate, respectively, by quick-change attachment structures.

4. (Withdrawn) The rotary actuator of claim 3 wherein each of the quick-change attachment structures comprises a first radial groove in the structural link, a second radial groove, adjacent to the first radial groove, in the mating portion of the rotary actuator, and a radial clamp, extending about the circumference of the first and second radial grooves.

5. (Withdrawn) The rotary actuator of claim 2 wherein the first structural link is attached to the actuator shell immediately adjacent to the cross-roller bearing and the second structural link is attached to the output attachment plate immediately adjacent to the cross-roller bearing.

6. (Currently Amended) A rotary actuator comprising:

an actuator shell;

an eccentric cage, disposed within the actuator shell;

a prime mover having a first prime mover portion rigidly fixed to the actuator shell and. a second prime mover portion, rotatable with respect to the first prime mover portion, rigidly fixed to the eccentric cage, and capable of exerting. a torque on the first prime mover portion;

a cross-roller bearing having a first bearing portion rigidly fixed to the actuator shell and a second bearing portion, free in rotation with respect to the first bearing portion;

an output attachment plate rigidly fixed to. the second bearing portion;

a shell gear rigidly fixed to the actuator shell;

an output gear rigidly fixed to the output attachment plate; ~~and~~

an eccentric, disposed about the eccentric cage, having a first gear portion meshed to the shell gear and a second gear portion, adjacent to the first gear portion, meshed to the output gear;

a first structural link rigidly attached to the actuator shell using by quick-change attachment structure; and

a second structural link rigidly attached to the output attachment plate by quick-change attachment structure.

7. (Withdrawn) The rotary .actuator of claim 6 further comprising a first structural link rigidly connected to the actuator shell and a second structural link rigidly connected to the output attachment plate.

8. (Withdrawn) The rotary actuator of claim 7 wherein the first. link and second links are attached to the actuator shell and output attachment plate, respectively, by quick-change attachment structures.

9. (Currently Amended) The rotary actuator of claim 6~~8~~ wherein each of the quick-change attachment structures comprises a first radial groove in the structural link, a second radial groove, adjacent to the first radial groove, in the mating portion of the rotary actuator and a. radial clamp, extending about the circumference of the first and second radial grooves.

10. (Original) The rotary actuator of claim 6 wherein the first structural link is attached to the actuator shell immediately adjacent to the cross-roller bearing and the second structural link is attached to the output attachment plate immediately adjacent to the cross-roller bearing.

11. (Original) The rotary actuator of claim 6 wherein one or more of the first and second gear portions employs gear teeth having a circular profile.

12. (Original) The rotary actuator of claim 11 wherein the gear teeth having a circular profile are dimensioned to have a slight interference.

13. (Original) The rotary actuator of claim 12 wherein one or more of the gear teeth having a circular profile have a cavity disposed therein in order to reduce the stiffness of the gear teeth.

14. (Original) The rotary actuator of claim 6 wherein 10 or more gear teeth within one or more of the first and second gear portions are in contact at any point in time.